

EXHIBIT A
VERSIONS WITH MARKINGS TO SHOW CHANGES MADE

(0030) Referring next to Figure 9, other preferred embodiments of a heat exchanger [110] 113 and a bypass valve [112] 115 are shown. In bypass valve [112] 115, inlet and outlet openings 44, 46 are formed in opposed plug walls 114, 116 and this shows that inlet and outlet openings 44, 46 can be located anywhere in plug portion 26 as long as one of these openings is blocked when valve [112] 115 is closed. Otherwise, bypass valve [112] 115 is substantially similar to or can incorporate the features of the bypass valves 12, 70 and 80 described above. In the embodiment of Figure 9, plate 38 (which preferably is dimpled but may be flat) and a bottom plate 118 (which may also be dimpled or flat), together form a tubular member 120 which is one of the tubular members that make up heat exchanger [110] 113. Tubular member 120 is actually a bypass channel and has flow openings 122 that communicate with the flow openings in the adjacent enlarged distal end portions 16 of adjacent tubular member 14, and as such forms part of the inlet and outlet manifolds of heat exchanger [110] 113. Instead of tubular member 120, a regular tubular member 14 could be used in heat exchanger [110] 113, if desired. This would produce a full flood or single pass heat exchanger. Tubular members 14 may or may not have turbulizers in them or be made of dimpled plates, but the bottom tubular member 120 likely would not be turbulized or have other types of flow augmentation, such as dimples.

(0031) In the assembly of heat exchangers 10, 100 and [110] 113, the various components, such as the tubular members 14 or 120 and fins 18 are stacked together along with dimpled plates 20, if desired, and upper and lower dimpled plates 36, 38. Mounting plates or brackets 40 and inlet and outlet fittings 28, 30 can be preassembled to upper and lower dimpled plates 36, 38, or assembled along with all of the other components. The housing 42 of the preferred bypass valve 12, 70, 80 or [112] 115 (without any other bypass valve components) is then placed in the desired location in the heat exchanger and the entire assembly is brazed together in a brazing furnace. It will be appreciated that in the preferred embodiments, aluminum or a brazing-clad aluminum is used for most of the parts of the heat exchangers, so that all of the parts can be brazed together in a brazing furnace. After this assembly is cooled, the desired actuator components of the bypass valves are inserted into housing 42 and the removable closures 54 are secured in position with split pins 58.